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Professional Preparation

B.A.--1991, University of Barcelona (Spain), Biology
M.S.--1993, University of Barcelona (Spain), Plant Biology
PhD.--1997, University of Barcelona (Spain), and Smithsonian Institution of Washington,
(Biological Sciences)

Appointments

2002-present: Assistant Ecologist, Argonne National Laboratory
2000-2002: Research Associate, Argonne National Laboratory
1997-2000: Research Associate, Duke University
1996-1997: Graduate Fellow, Smithsonian Environmental Research Center
1993-1996: Plant Biologist, Smithsonian Environment Research Center
1993-1997: Graduate student, University of Barcelona (Spain)
1991-1993: Research Assistant, Institut de Recerca i Tecnologia
1991-1993: Agroalimentaries (Spain)
1989-1991: Undergraduate Researcher, University of Barcelona (Spain)

Current Research Interests

The function of roots and rhizosphere communities on soil development, carbon dynamics and storage and nutrient cycling. The contribution of roots and rhizosphere communities in the global carbon cycle. Effects of environmental changes, particularly atmospheric CO₂ enrichment, on plant-soil interactions. Use of stable isotopes for underlying physiological and ecosystem processes related to plant-soil interactions, carbon and nitrogen cycling and soil development.

Publications

Matamala R, MA Gonzalez-Meler, JD Jastrow, R Norby, WH Schlesinger, 2004 Response to Comment on: Impacts of Fine Root Turnover on Forest NPP and Soil C Sequestration Potential. Science, 304:1745-1745.

Matamala R, MA Gonzalez-Meler, JD Jastrow, R Norby, WH Schlesinger, 2003. Impacts of fine root turnover on forest NPP and soil C sequestration potential. Science, 302: 1385-1387.

Pataki, DE, DS Ellsworth, RD Evans, MA Gonzalez-Meler, J King, SW Leavitt, G Lin, R Matamala, E Pendall, R Siegwolf, C Van Kessel, J Ehleringer. 2003. Tracing changes in ecosystem function under elevated carbon dioxide conditions. BioScience, 53: 805-818.

Matamala R. and Schlesinger W.H. 2000. Effects of atmospheric CO₂ enrichment on fine root

production and activity in an intact temperate forest ecosystem. *Global Change Biology*, 6: 967-980.

Allen A.S., Andrews J.A., Finzi A.C., Matamala R., Richter D.R. and Schlesinger W.H. 2000. Effects of Free-Air CO₂ Enrichment (FACE) on below-ground processes in a loblolly pine forest. *Ecological Applications*, 10: 437-448.

Luo Y. L., J.A. Andrews, L. White, R. Matamala, K.V.R. Schafer, and W. H. Schlesinger 2000. Elevated CO₂ differentiates ecosystem carbon processes: A deconvolution analysis of Duke Forest FACE data. *Ecological Monographs* 71:357-376.

DeLucia, E.H., Hamilton J.G., Shawna L.N., Thomas R.B., Andrews J.A., Finzi A., Lavine M., Matamala R., Mohan J.E., Hendrey G.R. and W.H. Schlesinger 1999. Net primary production of a forest ecosystem with experimental CO₂ enrichment. *Science*, 284: 1177-1179.

Andrews J.A., Matamala R., Westover K.M. and Schlesinger W.H. 2000. Temperature effect on the diversity of soil heterotrophs and the d13C of soil-respired CO₂. *Soil Biology & Biochemistry*, 32: 699-706.

Andrews J. A., Matamala R., Harrison K. and Schlesinger W.H. 1999. Separation of root from total soil respiration using ¹³C labeling during free-air CO₂ enrichment (FACE). *Soil Science Society of America Journal*, 63: 1429-1435.

Matamala R. and Drake B.G. 1998. The influence of atmospheric CO₂ enrichment on plant-soil nitrogen interactions in a wetland plant community on the Chesapeake Bay. *Plant and Soil*, 210: 93-101.

Drake B.G., Peresta G., Beugeling E. and Matamala R. 1996. Long-term elevated CO₂ exposure in a Chesapeake Bay wetland: Ecosystem gas exchange, Primary production and tissue nitrogen. *Carbon Dioxide and Terrestrial Ecosystems*. Ed. Koch G. W. and Mooney H. A. pp. 197-214.

Drake B.G., Muehe M., Peresta G., González-Meler M.A., and Matamala R. 1996 Acclimation of photosynthesis, respiration and ecosystem carbon flux of a wetland on Chesapeake Bay, Maryland to elevated atmospheric CO₂ concentration. *Plant and Soil*, 187: 111-118.

Peñuelas J. and R. Matamala 1990 Changes in N and S leaf content, stomatal density and specific leaf area of 14 plant species during the last three centuries of CO₂ increase. *Journal of Experimental Botany*, 41: 1119-1124.